function" versus "stable". We speculate that serial trends in dd-cfDNA may detect unstable graft function with higher precision than a dd-cfDNA threshold. Further analysis with ongoing patient enrollment and utilization of the enriched dataset regarding etiology of "unstable graft function" will further refine the utility of this clinical tool.

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Prognostic Significance of Asymptomatic Pulmonary Embolism on Routine Ventilation-Perfusion Scans after Lung Transplantation

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Purpose: Asymptomatic pulmonary embolism (PE) is a challenging clinical entity with unclear treatment implications. This is also true of PE detected on routine studies after lung transplant were clot may be donor derived. Our program performs routine ventilation-perfusion (VQ) scans at 3-months post-transplant to establish baseline airway and vascular function but in some cases, these are positive for PE. We hypothesized that asymptomatic PE in this context would carry a benign prognosis irrespective of therapy.

Methods: We studied VQ scans obtained routinely at 3-months post-transplant from double lung transplant recipients in our program between 2004-2016. The risk group was patients whose studies were interpreted as high probability for PE. We used chi square testing for the relationship between PE with 1-year survival. We also used Kaplan Meier analysis with log rank testing and t-tests for the association with overall survival and peak forced expiratory volume in 1 second (FEV1) percent predicted.

Results: 373 patients met inclusion criteria, of whom 35 (9%) had VQ scans interpreted as high probability for PE. The PE group were less likely to have had severe primary graft dysfunction (3% vs. 19%; p=0.03) but were otherwise similar to patients without PE. 7 patients in the PE group (20%) were treated with therapeutic anticoagulation and the remainder treated expectantly. Patients with PE had similar 1-year survival (100% vs. 98%, p=1.00), overall survival (log rank p=0.90) and peak FEV1% predicted (94% [SD 20%] vs. 92% [SD 21%]; p=0.58). We observed no differences between treated and untreated PE.

Conclusion: Asymptomatic PE diagnosed on routine post-transplant VQ scan was not associated with a difference in survival or lung function, irrespective of therapy. This may suggest these changes are donor derived and not reflective of recipient hypercoagulability.
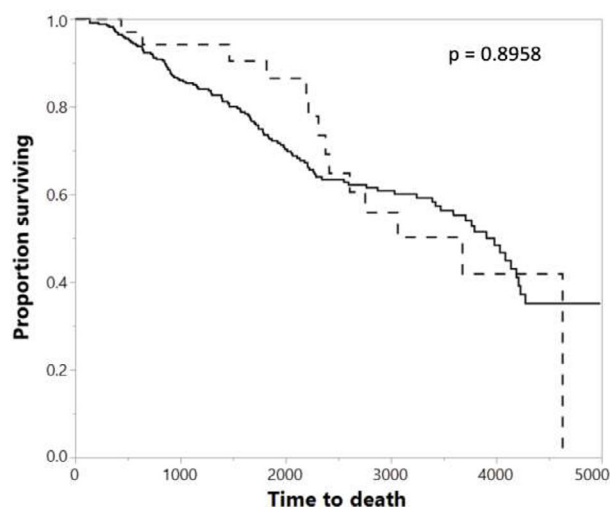

Figure 1. Kaplan Meier estimate of time to death after transplant stratified by patients with PE (dashed line) versus those with no PE (solid line) on 3-month routine ventilation perfusion scan.

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Cardiothoracic Organ Utilisation during the SARS-CoV-2 Pandemic in the UK

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Purpose: The severe acute respiratory syndrome coronavirus (SARS-CoV-2) pandemic has caused widespread changes to healthcare practice. Demand on capacity, concerns for transplant recipients, including the risks of nosocomial infection, and the availability and safety of donors, lead to continuation of transplantation for only urgent and super-urgent, in-patient candidates, in the UK from March to May 2020. The aim of this study is to evaluate the impact of these practice changes on heart and lung donor utilisation during the pandemic period.

Methods: Data on all adult and paediatric heart and lung donors offered, and transplants performed, between 1 March and 30 September 2019 and 1 March and 30 September 2020 were obtained from the UK Transplant Registry. The early pandemic period is defined as 1 March to 31 May 2020. *Ideal* lung donors are defined as age <56 years and no smoking history.

Results: Lung transplant activity during the early pandemic period fell by 77% (13 transplants compared to 56 in 2019). Heart transplant activity fell by 10% (38 compared to 42 heart transplants in 2019). The number of donors, who donated at least 1 solid organ, fell by 51%. The lung donor utilisation rate during the early pandemic period was 11%, compared to 24% for the same period of 2019. The heart donor utilisation rate during the pandemic period was 35% compared to 26% during the same period of 2019. The proportion of *ideal* lung donors, from donors where lung(s) were offered, was 23% in 2020 compared to 24% in 2019. Following the early pandemic period (1 June to 30 September 2020), there has been an increase in the number of lung donors, lung transplant activity and utilisation, rising from 11% in March to May to 14% in June to September. This compares with a utilisation rate of 21% for the same period of 2019.

Conclusion: During the SARS-CoV-2 pandemic, changes to practice led to the continuation of heart transplantation, with minimal impact on activity, whilst lung transplant activity fell. The number of organ donors fell, while the 'quality' of potential lung donors remained unchanged. As the evidence base guiding clinical practice is evolving, along with improved donor testing, lung transplant activity is again increasing, however the utilisation of donors remains lower than in 2019. On-going analysis of activity is required to fully assess the impact of the SARS-CoV-2 pandemic on the UK lung transplant population.

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Assessing the Accuracy of the Lung Allocation Score

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Purpose: The Lung Allocation Score (LAS) relies on the performance of two cox proportional hazards models that estimate waitlist and post-transplant survival. These models were developed using data from 2005-2008; it is unknown if they remain accurate.

Methods: Observational cohort study of all lung transplant candidates and recipients greater than 12 years listed or transplanted between February, 19th 2015 to February, 19th 2019 in the Scientific Registry of Transplant Recipients database. We evaluated the discrimination of the waitlist and post-transplant models with the concordance probability estimate and the calibration of each model by comparing predicted versus observed one-year restricted mean survival times. We evaluated the overall accuracy of